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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 08/795,961 | 02/04/1997 | JOHN R. FYSON | 71442JRE | 8393 |

1333 7590 05/09/2003

PATENT LEGAL STAFF
EASTMAN KODAK COMPANY
343 STATE STREET
ROCHESTER, NY 14650-2201

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| EXAMINER |
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HOEY, BETSEY MORRISON

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| ART UNIT | PAPER NUMBER |
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1724

DATE MAILED: 05/09/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 08/795,961 | FYSON, JOHN R. |
| | Examiner | Art Unit |
| | HOEY, BETSEY | 1724 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 August 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,3,4 and 6-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1,3,4 and 6-20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____ .

2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . 6) Other: _____ .

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1. In light of the remand from the Board of Appeals, and the translation of DE 36 35 219

A1, a new Office Action is submitted.

2. Claim 3 is objected to because of the following informalities: the phrase "either of the preceding claims" is inappropriate because claim 2 is canceled. Appropriate correction is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 6 and 11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by DE 36 35 219 A1 (English translation). The DE reference teaches a process for treating wash water from a photographic development process containing thiosulfate. The thiosulfate is oxidized with hydrogen peroxide, wherein the reaction is catalyzed by heavy metal compounds. The heavy metal compounds may include ammonium molybdate, which may be chemically bound to a carrier to that no heavy metal ions are liberated into the reaction solution. The range of amounts of thiosulfate present in the wash water treated by the process of the DE reference includes the amount recited in instant claim 11.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 36 35 219 A1 (see above). The DE reference discloses the process described above. The claims differ from the DE reference by reciting that the substrate is a porous mass (claim 7), and that the effluent is from a redox-amplifier developer (claim 10).

It is submitted that while the DE reference does not specify that the carrier used in the process is a porous mass, it does indicate that activated charcoal and aluminum oxide can be used as the carrier. It is known to use activated charcoal and aluminum oxide as catalyst substrates in the form of a porous mass in order to provide greater surface area for the reaction to take place. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have included a porous mass substrate carrier for the molybdate catalyst of the DE reference, in order to carry out the reaction efficiently, with greater surface area available for the reaction to take place. It is also submitted that while the DE reference does not

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specify that the waste being treated is from a redox-amplifier developer, the specification of the DE reference clearly encompasses the treatment of any wash water from a photographic development process containing low concentrations of thiosulfate (see page 2 of translation). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have used the process of the DE reference to treat redox-amplifier developer effluent.

8. Claims 8, 9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 36 35 219 A1 (see above), in view of Yan, U.S. Patent No. 5,552,063 (abstract; col. 1, lines 30-37; col. 1, line 64-col. 2, line 7; col. 4, lines 56-67; col. 5, lines 2-7, 20-24; col. 6, lines 7-10).

DE 36 35 219 A1 discloses the process described above. The claims differ from the DE reference by reciting the the substrate is an ion exchange material (claim 8), or more specifically, an anion exchange material (claim 9); that the hydrogen peroxide is combined with a soluble alkali prior to reaction with the effluent to reduce the final pH of the effluent to about 5-9 (claim 12), wherein the alkali is a soluble bicarbonate, alkanoate, or dihydrogen phosphate (claim 13), or specifically potassium bicarbonate (claim 14).

Yan discloses a process that is analogous to the process of DE 36 35 219 A1 because both processes solve the same problem in substantially the same manner, which is treating waste water containing reduced substances by catalytic oxidation. Yan discloses a process for catalytically oxidizing offensive substances in waste water, including thiosulfates, wherein the catalyst is supported on an inert material, such as an ion exchange resin, which includes anion exchange

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resins. Yan discloses that the problem with conventional waste water treatment processes for stream having low concentrations of offensive substances is the introduction of undesirable substances into the wastewater from metal catalysts, and that the supports used in the process of Yan are those that are inert or resistant to decomposition, dissolution and leaching. Therefore, it would have been obvious to one of ordinary skill in the art to have included an ion exchange support, or specifically an anion exchange support, for the catalyst in the process of DE 36 35 219 A1, in view of Yan, in order to catalytically oxidize reduce substances in waste water while minimizing the discharge of toxic transition metals into the treated waste effluent. It is noted that Yan, in Example 1, discloses a pH of 8.4, which is within the pH range recited in instant claim 12. It is well-known in the art of water treatment to add a basic agent when it is desired to raise the pH of the water, and the sources of alkali recited in instant claims 13 and 14 are conventional agents used for pH adjustment in waste water treatment applications; therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have added the recited source of alkali in the processes of DE 36 35 219 A1 in view of Yan, in order to have adjusted the pH to a level at which the process would proceed efficiently.

9. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yan (see above). The figures of Yan show an apparatus for treating waste water comprising a tower unit (12), a tower containing a supported catalyst (16), inlet line (10), and outlet line (19), which are structurally patentably indistinguishable from the tank, receptacle, conduit apparatus, inlet, and outlet combinations recited in instant claims 15-20. The claims differ from Yan by reciting a

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selectively operable closing means (claim 15), specific volume throughput (claim 17), and a pump (claim 20).

It is submitted that closing means, volume control means, and pumps are all conventional equipment used to handle waste water being oxidatively treated in a continuous-flow manner. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have included conventional structures such as closing means, volume control means, and pumps in the apparatus of Yan, in order to operate the oxidation process effectively and efficiently, absent a sufficient showing of unexpected results.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsey Hoey whose telephone number is (703) 305-3934. The examiner can normally be reached from 9:00 AM to 6:00 PM on most business days.

The fax phone number for official after final faxes for this Group is (703)305-3599, for all other official faxes the number is (703)305-7115.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

Betsey M. Hoey
BETSEY MORRISON HOEY
PRIMARY EXAMINER

May 7, 2003